HERITAGE THERMAL SERVICES
1250 St. George Street
East Liverpool, Ohio 43920-3400
Phone: 330-385-7337
Fax: 330-385-7813
www.heritage-thermal.com

OHSAS 18001: 2007
ISO 14001: 2004
ISO 9001: 2008

July 22, 2016

VIA UPS & OEPA AIR SERVICES

Mr. Erik Bewley
OEPA-DAPC-NEDO
2110 E. Aurora Road
Twinsburg, OH 44087

Mr. George Czerniak
U.S. EPA Region V
Mail Code AE-17J
77 West Jackson
Chicago, IL 60604

RE: HERITAGE THERMAL SERVICES
SEMI-ANNUAL STARTUP, SHUTDOWN, AND MALFUNCTION REPORT &
SEMI-ANNUAL EXCESS EMISSIONS AND CMS REPORT

Greetings:

Please find enclosed a written report entitled *Semi-Annual Startup, Shutdown, and Malfunction Report* and *Semi-Annual Excess Emission and CMS Report* for Heritage Thermal Services. These reports are required by 40 CFR 63.10 and cover the time period of January 1, 2016 through June 30, 2016.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are certain penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Thank you and if you have any questions or comments, please call me at the above number.

Sincerely,

Stewart Fletcher
General Manager
Heritage Thermal Services

SEMI-ANNUAL STARTUP, SHUTDOWN, AND MALFUNCTION REPORT
&
SEMI-ANNUAL EXCESS EMISSION AND CMS REPORT

For

Heritage Thermal Services

July 22, 2016

Section I – General Information

A. Facility Information

Facility ID:	02-15-02-0233
Responsible Official's Name / Title:	Stewart Fletcher General Manager
Street Address:	1250 Saint George Street
City:	East Liverpool
State:	Ohio
Zip Code:	43920
Facility Name:	Heritage Thermal Services
Facility Local Contact Name:	Vincent Waggle Environmental Engineer

B. Relevant standard(s) or other requirement(s) that is/are the basis for this report:

63.10(d)(5)(i) – Periodic Startup, Shutdown, and Malfunction Reports

C. Are you requesting a waiver of recordkeeping and/or reporting requirements under the applicable relevant standard(s) in conjunction with this report?

☐ Yes ☒ No

If you answered yes, you must submit the application for a waiver of recordkeeping and/or reporting requirements together with this report. The application for waiver should include whatever information you consider useful to convince the Administrator that a waiver of recordkeeping or recording is warranted. (63.10(f)(3)

Section II – Certification

Based upon information and belief formed after a reasonable inquiry, I as a responsible official of the above-mentioned facility, certify the information contained in this report is accurate and true to the best of my knowledge.

Stewart Fletcher, General Manager

Signature: _____ Date: 7/22/16

Section III – Startup, Shutdown, and Malfunction Reports

A. Startup, Shutdown, or Malfunction Actions

All actions taken by Heritage Thermal Services during startup, shutdown, or malfunction events during the reporting period of **January 1, 2016 through June 30, 2016** were consistent with the procedures specified in the facility's Startup, Shutdown, and Malfunction Plan.

B. Malfunctions

Please find in the table below a list of each malfunction, the durations, and a brief description of the type of malfunction that occurred during the reporting period of **January 1, 2016 through June 30, 2016.**

See next page for completed table

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
ESP Field #1 Current	1/1/2016 8:32	1/1/2016 9:48	76.0	Malfunction Ash Build-up	Ash build-up on ESP plates caused low current.	Initiated WFCO. Increased rapping. Restarted.
ESP Field #1 Current	1/1/2016 11:55	1/1/2016 12:58	63.1	Malfunction Ash Build-up	Ash build-up on ESP plates caused low current.	Initiated WFCO. Increased rapping. Restarted.
ESP Field #1 Current	1/1/2016 16:08	1/1/2016 16:09	1.0	Malfunction Ash Build-up	Ash build-up on ESP plates caused low current.	Initiated WFCO. Increased rapping. Restarted.
ESP Field #1 Current	1/8/2016 0:32	1/8/2016 1:08	36.9	Malfunction Ash Build-up	Ash build-up on ESP plates caused low current.	Initiated WFCO. Increased rapping. Restarted.
THC	1/27/2016 0:20	1/27/2016 1:16	56.3	Malfunction Line Purge	Purging of the direct feed line caused combustion upset.	Cleared line. Restarted unit.
ESP Field #1 Current	2/13/2016 19:17	2/13/2016 20:15	58.1	Malfunction Ash Build-up	Waste feed caused unexpected ash build-up on ESP	Increased rapping. Restarted unit.
ESP Field #1 Current	2/14/2016 10:28	2/14/2016 11:40	72.9	Malfunction Ash Build-up	Waste feed caused unexpected ash build-up on ESP	WO#160565. Restart unit.
SCC Pressure	2/15/2016 22:00	2/15/2016 22:00	0.0	Malfunction Front Wall Burner	Malfunction of the front wall burner caused pressure trip.	Repaired burner. Restarted unit
Scrubber pH	2/17/2016 1:07	2/17/2016 1:17	10.0	Malfunction Scrubber Pump	Failure of caustic pump caused loss of pH control	WO#160606. Repaired pump. Restarted unit.
ESP Field #1 Current	2/27/2016 13:21	2/27/2016 14:23	62.0	Malfunction Ash Build-up	Waste feed caused unexpected ash build-up on ESP	Shutdown unit. Cleared field. Restarted.

** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Some OPL exceedances have been counted as a singular malfunction because they were the result of single initiating malfunction. Upon review of the individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
RJ DP	3/16/2016 8:04	3/16/2016 10:22	138.5	Malfunction ID Fan Stop	Leak in scrubber caused ID fan shutdown and OPL loss.	Leak repaired. OPLs regained. Unit Restart.
THC	4/6/2016 20:48	4/6/2016 21:46	58.8	Malfunction Combustion Anomaly	Bulk feed caused unexpected combustion upset.	Mixed pit. Restarted unit.
SDA ECIS Flow	4/15/2016 5:44	4/15/2016 5:50	5.8	Malfunction ECIS Screw	Screw plugging caused loss of carbon flow.	Cleared screw. Restarted unit.
SCC Pressure	4/22/2016 16:55	4/22/2016 16:56	1.1	Malfunction Clinker Fell	Small amount of ash fell into quench causing pressure spike.	Increased draft. Restarted unit.
SCC Pressure	4/27/2016 17:15	4/27/2016 17:15	0.6	Malfunction Clinker Fell	Small amount of ash fell into quench causing pressure spike.	Restarted unit. Reduced pit feeds.
SCC Pressure	4/27/2016 22:19	4/27/2016 22:24	4.7	Malfunction Clinker Fell	Small amount of ash fell into quench causing pressure spike.	Restarted unit. Reduced pit feeds.
SCC Pressure	5/3/2016 22:10	5/3/2016 22:11	1.1	Malfunction Clinker Fell	Ash fell from SCC into quench tank causing pressure spike.	Restarted unit. Revised procedure.
SCC Pressure	5/5/2016 17:33	5/5/2016 17:37	4.2	Malfunction FW Burner	Malfunction of front wall burner caused brief pressure spike.	Repaired burner. Restarted unit.
THC	5/13/2016 16:32	5/13/2016 16:37	5.2	Malfunction FW Coolant Leak	Leak in front wall coolant system caused poor combustion	Unit shutdown to repair leak 5/15.
THC	5/13/2016 16:41	5/13/2016 17:04	23.0	Malfunction FW Coolant Leak	Leak in front wall coolant system caused poor combustion	Unit shutdown to repair leak 5/15.

** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Some OPL exceedances have been counted as a singular malfunction because they were the result of single initiating malfunction. Upon review of the individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
THC	5/14/2016 1:26	5/14/2016 1:57	31.3	Malfunction FW Coolant Leak	Leak in front wall coolant system caused poor combustion	Unit shutdown to repair leak 5/15.
THC	5/21/2016 13:22	5/21/2016 14:20	58.8	Malfunction Combustion Anomaly	Container feed caused unexpected combustion upset and THC.	Restarted unit.
ESP Field #1 Current	5/24/2016 1:05	5/24/2016 1:50	45.3	Malfunction Ash Build-up	Unexpected ash build-up caused low ESP current.	Increased rapping. Adjusted feed rates.
SCC Pressure	5/28/2016 2:44	5/28/2016 2:45	1.0	Malfunction Lance Plugging	Plugging and purging of aqueous lance cause pressure trip.	Cleared lance. Restarted unit.
SDA ECIS Flow	6/1/2016 11:45	6/1/2016 11:50	5.2	Malfunction ECIS Screw	Broken casing on feed screw caused flow loss.	Repaired screw. Restarted unit
ESP Field #1 Current	6/1/2016 20:35	6/1/2016 20:48	12.1	Malfunction Ash Build-up	Unexpected ash build-up caused low ESP current.	Increased rapping. Adjusted feed rates.
THC	6/4/2016 1:52	6/4/2016 2:50	58.9	Malfunction Combustion Anomaly	Container feed caused unexpected combustion upset and THC.	Restarted unit. Spaced out feeds as precaution.
ESP Field #1 Current	6/4/2016 7:18	6/4/2016 8:02	43.9	Malfunction Ash Build-up	Unexpected ash build-up caused low ESP current.	Increased rapping. Adjusted feed rates.
SCC Pressure	6/8/2016 1:22	6/8/2016 1:23	1.1	Malfunction Clinker Fell	Small ash fall cause brief pressure spike.	Restart unit. Increase draft.
THC	6/11/2016 16:02	6/11/2016 17:00	57.8	Malfunction Combustion Anomaly	Container feed caused unexpected combustion upset and THC.	Restarted unit. Spaced out feeds as precaution.

** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Some OPL exceedances have been counted as a singular malfunction because they were the result of single initiating malfunction. Upon review of the individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
RJ Blowdown Flow	6/17/2016 3:30	6/17/2016 4:57	86.7	Malfunction Scrubber Maintenance	Acid wash of the scrubber caused OPL loss.	Completed maintenance. Restarted unit.
Scrubber pH	6/17/2016 4:01	6/17/2016 4:57	56.4	Malfunction Scrubber Maintenance	Acid wash of the scrubber caused OPL loss.	Completed maintenance. Restarted unit.
THC	6/17/2016 7:12	6/17/2016 8:11	59.0	Malfunction Combustion Anomaly	Container feed caused unexpected combustion upset and THC.	Reduce charges. Restart unit.
THC	6/17/2016 16:17	6/17/2016 17:15	57.9	Malfunction Lance Plugging	Plug and purge of the sludge lance caused poor combustion.	Cleared lance. Restarted unit.
THC	6/17/2016 20:30	6/17/2016 21:26	56.7	Malfunction Lance Plugging	Plug and purge of the hi BTU lance caused poor combustion.	Cleared lance. Restarted unit.
THC	6/18/2016 4:56	6/18/2016 5:56	59.9	Malfunction Equiment Failure	Failure of feed regulator caused poor combustion and THC	Replaced regulator. Restarted unit.
SCC Pressure	6/20/2016 15:35	6/20/2016 15:36	1.1	Malfunction Clinker Fell	Small ash fall cause brief pressure spike.	Restart unit. Increase draft.
SCC Pressure	6/20/2016 21:08	6/20/2016 21:10	2.1	Malfunction Clinker Fell	Kiln brow broke off into quench tank.	Restart unit. Increase draft.
THC	6/21/2016 17:18	6/21/2016 18:18	59.9	Malfunction Combustion Anomaly	Container feed caused unexpected combustion upset and THC.	Restarted unit. Spaced out feeds as precaution.

** The previously listed 10 malfunctions occurred within a 60-day block period and have been reviewed in accordance with 63.1206(c)(2)(v)(3)(ii). Some OPL exceedances have been counted as a singular malfunction because they were the result of single initiating malfunction. Upon review of the individual malfunctions, HTS has determined that these 10 events were not the result of a common problem and no resulting changes have been made to the SSMP.

C. Startup, Shutdown, or Malfunction Plan Revision History

DATE	Revision Number	Comment
9/30/2003	0	Initial Plan
2/27/2004	1	ESP OPLs added. Malfunction list updated.
6/23/2005	2	Revised section on operating modes.
10/27/2006	3	RCRA Permit modifications. Malfunction list updated.
3/15/2007	4	Malfunction list updated and comments added addressing instances beyond the operator's control.
6/6/2007	5	Malfunction list updated and further comments added addressing instances beyond the operator's control.
10/16/2007	6	Corrected minor deficiencies noted by OEPA.
9/1/2008	7	Revised to reflect facility name change
6/12/2009	8	This revision included, in Section 1.6.3.1, more detailed descriptions of the most common malfunction events that occur at the facility. It also included a description of data collection procedures during times when residence time expires while an exceedance event is taking place in Section 1.6.3.
2/9/2011	9	Revision created to reflect OPL changes resulting from the MACT CPT completed in 2010. Additionally, new malfunctions were added to Table 2-2.
5/1/2011	10	Revision incorporated a discussion of the exceedance investigation process and procedures. Table 2-2 was also slightly revised to include addition malfunctions.
7/5/2012	11	Revision 11 (7/5/2012) created to improve language surrounding the reporting and documentation during startup and shutdown events.
10/15/2013	12	Revision 12 (10/15/2013) created to account for facility name change.
6/4/2014	13	Revision 13 (6/4/2014) New malfunctions were added to Table 2-2.
6/30/2015	14	Revision 14 (6/30/2015) Updated new OPLS from MACT CPT.

SEMI-ANNUAL EXCESS EMISSION AND CMS REPORT

Section I – General Information

A. Facility Information

Facility ID:	02-15-0233
Responsible Official's Name / Title:	Stewart Fletcher / General Manager
Street Address:	1250 Saint George Street
City:	East Liverpool
State:	Ohio
Zip Code:	43920
Facility Name:	Heritage Thermal Services
Facility Local Contact Name:	Vincent Waggle Environmental Engineer

B. Relevant standard(s) or other requirement(s) that is/are the basis for this report:

63.10(e)(3) – Excess Emissions and Continuous Monitoring System Performance Report

C. Are you requesting a waiver of recordkeeping and/or reporting requirements under the applicable relevant standard(s) in conjunction with this report?

☐ Yes ☒ No

If you answered yes, you must submit the application for a waiver of recordkeeping and/or reporting requirements together with this report. The application for waiver should include whatever information you consider useful to convince the Administrator that a waiver of recordkeeping or recording is warranted. (63.10(f)(3))

D. Check the box that corresponds to the reports you are submitting:

☐ Summary Report Only (Complete Sections II and IV)

☒ Excess Emission and CMS Performance Report and Summary Report (Complete Sections II, III, and IV).

Section II – Certification

Based upon information and belief formed after a reasonable inquiry, I as a responsible official of the above-mentioned facility, certify the information contained in this report is accurate and true to the best of my knowledge.

Stewart Fletcher, General Manager

Signature: _____ Date: 7/22/16

Section III – Excess Emissions and CMS Performance Report

A. Excess Emissions

1. Have any excess emissions or exceedances of a parameter occurred during this reporting period?
☒ Yes ☐ No

2. If you answered yes, complete the following table for each period of excess emissions and/or parameter monitoring exceedances, as defined in the relevant standard(s), that occurred during periods other than startups, shutdowns, and/or malfunctions of your affected source. (63.10(c)(7)-(11))

See next page for completed table.

Name	Start Time	End Time	Duration (min)	Cause (report)	Cause Description	Corrective Actions
SCC Pressure	2/12/2016 20:01	2/12/2016 20:02	1.1	Operator Error Feed Prep	Improper feed prep caused pressure trip.	Reduced charge size. Restarted unit.
SCC Pressure	3/22/2016 18:52	3/22/2016 18:53	1.1	Operator Error Burner Startup	Operator did not adjust damper during burner start.	Unit restarted. Operator reprimanded.
THC	3/29/2016 18:43	3/29/2016 19:26	43.8	Operator Error Feed Prep	Improper packing caused poor combustion.	Unit restarted. Charge size reduced.
THC	4/24/2016 22:03	4/24/2016 23:06	63.2	Operator Error Feed Prep	Improper feed prep caused poor combustion.	Reduced charges. Restarted unit.
THC	5/7/2016 14:47	5/7/2016 15:47	59.3	Operator Error Feed Prep	Improper feed preparation caused poor combustion.	Revise processing. Restart unit.
THC	5/14/2016 3:56	5/14/2016 4:51	54.9	Operator Error Feed Prep	Improper feed preparation caused poor combustion.	Restarted unit. Reduced charges.
THC	5/20/2016 12:22	5/20/2016 13:20	57.9	Operator Error Feed Prep	Improper feed preparation caused poor combustion.	Restarted unit. Reduced charges.
THC	5/20/2016 13:31	5/20/2016 14:31	60.1	Operator Error Feed Prep	Improper feed preparation caused poor combustion.	Restarted unit. Reduced charges.
THC	6/18/2016 7:43	6/18/2016 8:41	58.9	Operator Error Feed Prep	Poor container prep led to poor combustion and THC.	Reduce charges. Restart unit.
THC	6/18/2016 14:52	6/18/2016 15:07	14.0	Operator Error Feed Prep	Poor container prep led to poor combustion and THC.	Reduce charges. Restart unit.
THC	6/21/2016 20:22	6/21/2016 21:22	59.3	Operator Error Feed Prep	Poor container prep led to poor combustion and THC.	Reduce charges. Restart unit.

B. CMS Performance

1. Has a CMS been inoperative (except for zero/low-level and high-level checks), out of control (as defined in 63.8(c)(7)(i)), repaired, or adjusted during this reporting period? ☐ Yes ☒No

2. If you answered yes, complete the following table for each period a CMS was out of control, repaired, or adjusted: (63.10(c)(5)-(6), (10)-(12); 63.8(c)(8).

3. Indicate the total process operating time during the reporting period. (63.10(c)(13))

Total process operating time (days):

Days in reporting period:	182
Facility total process operating time (days):	179.4
Total days on waste:	178.3
Total days on fuels:	1.06

Section IV – Summary Report – Gaseous and Opacity Excess Emissions and CMS Performance

A. Report Date and Submittal Reporting Period

Indicate the reporting period covered by this submittal and the date of this summary report. (63.10(e)(3)(vi))

Reporting Period beginning date	Reporting Period ending date	Summary Report Date
January 1, 2016	June 30, 2016	July 22, 2016

B. Process Description and Monitoring Equipment Information

Complete the following process description and monitoring equipment information table for each affected source process unit:

Total operating time of affected source during the reporting period (days)
256,816 minutes of unit burning/ retaining hazardous waste; 1,228 minutes on virgin fuels.

Process unit name
Rotary Kiln Incineration System

Process unit description
Rotary kiln and ancillary equipment for combustion of hazardous wastes.

Emission and/or operating parameter limitations specified in the relevant standards
See Table 1 and 2 below.

TABLE 1 – APPLICABLE EMISSIONS STANDARDS

Emissions Parameter	Limit	Citation
Destruction and Removal Efficiency (DRE)	≥99.99%	40 CFR 63.1203(c)(1)
PCDDs/PCDFs	≤0.20 ng/dscm TEQ basis	40 CFR 63.1219(a)(1)(i)
HCl/Cl_2	≤ 32 ppmv dry as HCl	40 CFR 63.1219(a)(6)
Mercury	≤ 130 µg/dscm	40 CFR 63.1219(a)(2)
Semi volatile Metals (SVM)	≤ 230 µg/dscm	40 CFR 63.1219(a)(3)
Low Volatile Metals (LVM)	≤ 92 µg/dscm	40 CFR 63.1219(a)(4)
Totals Hydrocarbons	≤ 10 ppmv	40 CFR 63.1219(a)(5)(ii)
Particulate Matter (PM)	≤ 0.013 gr/dscf or 34 mg/dscm	40 CFR 63.1219(a)(7)

TABLE 2 – OPERATING PARAMETERS

Process Parameter (Tag ID)	Units	Avg. Period	Basis	Limit
Minimum Feed Lance Atomization Pressure[1]	Psig	Instant.	Mfg. Rec.	30
Maximum SCC Pressure (PT-4307 & PT-4308)	In. w.c.	Reference September 4, 2003 letter from US EPA Region 5 concerning this requirement.		
Maximum Temperature at ESP Inlet (TI-6002A/B)	°F	1-hr	CPT	425.3
Maximum Pumpable Waste Feed Rate (WQI-9000T)	Lb/hr	1-hr	CPT	25,857
Maximum Total Waste Feed Rate (WQI-9000F)	Lb/hr	1-hr	CPT	31,513
Minimum Kiln Temperature (TI-4300A/B)	°F	1-hr	CPT	1,695
Minimum SCC Temperature (TI-4310A/B)	°F	1-hr	CPT	1,710
Maximum Process Gas Flow rate (FI-7510A/B)	Scfm	1-hr	CPT	67,119
Minimum Loc. 1 Carbon Feed Rate (WI-7003)	Lb/hr	1-hr	CPT	
Minimum Loc. 2 Carbon Feed Rate (WI-7002)	Lb/hr	1-hr	CPT	
Minimum Loc. 1 Carbon Feed Pressure (PI-5732)	Psig	1-hr	CPT	3.0

[1] Each liquid lance has a pressure switch. When the pressure drops below 30 psig on any lance the feed from that lance will be automatically cut off. Tag Ids : PSL-3113 (High BTU), PSL-3123 (Organic), PSL-3143 (Aqueous), PSL-3133 (Sludge), PSL-3153 (Slurry), and PSL-3100A/B (Sludge 2).

Process Parameter (Tag ID)	Units	Avg. Period	Basis	Limit
Minimum Loc. 2 Carbon Feed Pressure (PI-7132)	Psig	1-hr	CPT	3.0
Maximum Ash Feed Rate (WQI-9000AH)	Lb/hr	12-hr	CPT	11,180
Minimum Ring Jet Pressure Drop (DPI-7401)	in. w.c.	1-hr	CPT	27.0
Minimum Scrubber (1st and 2nd Packed Bed, combined) Liquid Flow Rate (FQI-7201)	gpm	1-hr	CPT	1,291.7
Minimum Scrubber (Ring Jet) Liquid Flow Rate (FI-7404A/B)	gpm	1-hr	CPT	494.7
Minimum Scrubber (Ring Jet) Blowdown (FI-7403)	gpm	1-hr	CPT	19.2
Minimum Scrubber (Ring Jet) Tank Level (LIC-7401)	feet	1-hr	CPT	1.7
ESP Parameters	The ESP is operating with all fields available with set points of 45,000 volts and 90 sparks per minute, each field; and minimum current of 100 milliamps, each field (see US EPA letters dated Dec. 10 and Dec. 27, 2003).			
Minimum Scrubber (1st and 2nd Packed Bed, combined) Feed Pressure	in. w.c.	1-hr	Mfg. Rec.	Not Req'd.
Minimum Scrubber (1st and 2nd Packed Bed) Pressure Drop	in. w.c.	1-hr	Mfg. Rec.	1.3
Minimum Scrubber (3rd Stage) Liquid pH (AI-7307A/B)	pH units	1-hr	CPT	7.4
Maximum Total Chlorine Feed Rate (WQI-9000CL)	Lb/hr	12-hr	CPT	2,041
Maximum Total Semi volatile Metals Feed Rate (WQI-9000SV)	Lb/hr	12-hr	CPT	102.2
Maximum Total Low Volatile Metals Feed Rate (WQI-9000LV)	Lb/hr	12-hr	CPT	400
Maximum Total Pumpable Low Volatile Metals Feed Rate (WQI-9000PLV)	Lb/hr	12-hr	CPT	400
Maximum Total Mercury Feed Rate (WQI-9000M)	lb/hr	12-hr	CPT	0.33
Stack THC (AI-7850)	ppmv	1-hr	Regulatory Requirement	<10

Monitoring Equipment Information

Monitored Parameter	Instrument Description	Range and Units of Measurement	Tag Number	Last Calibration/Audit Date	Accuracy of Measurement
Power -ESP Field #1	Environmental Elements Controller	0 – 500 ma	EI-6700	**1/29/2016**	N/A
Power -ESP Field #2	Environmental Elements Controller	0 – 500 ma	EI-6710	**1/29/2016**	N/A
Power -ESP Field #3	Environmental Elements Controller	0 – 750 ma	EI-6720	**1/29/2016**	N/A
Scrubber Second Packed Bed Liquid PH	Electro-Chemical Devices	0 – 14 pH units	AT-7307A	**Performed Weekly**	± 5% of range
Scrubber Second Packed Bed Liquid PH	Electro-Chemical Devices	0 – 14 pH units	AT-7307B	**Performed Weekly**	± 5% of range
Scrubber 2nd Packed Bed Differential Pressure	Rosemount Transmitter /Pressure transducer	0 – 8 in w.c.	DPT-7307	**8/28/2015**	± 2% of range
Pumpable Feed Rate High BTU Lance	Micromotion Mass Flow Meter	0 – 10,000 lb/hr	FT-3110	**2/17/2016**	± 10% of range
Pumpable Feed Rate Organic Lance	Micromotion Mass Flow Meter	0 – 10,000 lb/hr	FT-3120	**2/17/2016**	± 10% of range
Pumpable Feed Rate Sludge Lance	Positive displacement pump (calculation)	0 – 15,000 lb/hr	FT-3130	**Not Applicable (calculation)**	N/A
Pumpable Feed Rate Aqueous Lance	Micromotion Mass Flow Meter	0 – 10,000 lb/hr	FT-3140	**2/17/2016**	± 10% of range
Pumpable Feed Rate Slurry Lance	Positive displacement pump (calculation)	0 – 15,000 lb/hr	FT-3150	**Not Applicable (calculation)**	N/A
Scrubber First Packed bed flow rate	PolySonics Doppler Flow	0 – 1,500 gpm	FT-7204A	**2/10/2016**	± 10% of range
Scrubber First Packed bed flow rate	Panametrics Ultrasonic Flow	0 – 1,500 gpm	FT-7204B	**2/10/2016**	± 10% of range
Scrubber Second Packed bed flow rate	PolySonics Doppler Flow	0 – 1,500 gpm	FT-7304A	**2/10/2016**	± 10% of range
Scrubber Second Packed bed flow rate	Panametrics Ultrasonic Flow	0 – 1,500 gpm	FT-7304B	**2/10/2016**	± 10% of range
Ring Jet Blow Down	Panametrics Ultrasonic Flow	0 – 500 gpm	FT-7403A	**2/10/2016**	± 10% of range
Ring Jet Blow Down	Panametrics Ultrasonic Flow	0 – 500 gpm	FT-7403B	**2/10/2016**	± 10% of range
Scrubber Ring Jet Liquid Flow Rate	Panametrics Ultrasonic Flow	0 – 1,500 gpm	FT-7404A	**2/10/2016**	± 10% of range
Scrubber Ring Jet Liquid Flow Rate	Panametrics Ultrasonic Flow	0 – 1,500 gpm	FT-7404B	**2/10/2016**	± 10% of range
Ring Jet Vessel Level	Rosemount Transmitter/ Pressure	0 – 5 feet	LT-7401A	**7/28/2015**	± 2% of range
Ring Jet Vessel Level	Rosemount Transmitter/ Pressure	0 – 5 feet	LT-7401B	**7/28/2015**	± 2% of range
Kiln Inlet Shroud (differential) Pressure (reference to SCC)	Rosemount Pressure transducer	0 - 10 in. w.c.	PDT-4308	**5/16/2016**	± 2% of range

Monitored Parameter	Instrument Description	Range and Units of Measurement	Tag Number	Last Calibration/Audit Date	Accuracy of Measurement
Kiln Outlet Shroud (differential) Pressure (reference to SCC)	Rosemount Pressure transducer	0 - 10 in. w.c.	PDT-4306	**5/16/2016**	± 2% of range
Kiln Inlet Shroud Pressure (reference to ambient)	Rosemount Pressure transducer	0 - 10 in. w.c.	PT-4307	**5/16/2016**	± 2% of range
Scrubber 1st Packed Bed Differential Pressure	Rosemount Transmitter /Pressure transducer	0 – 8 in w.c.	PDT-7207	**8/28/2015**	± 2% of range
Ring Jet Differential Pressure	Rosemount Transmitter/ Pressure	0 – 40 in w.c. (changed 2005)	PDT-7401A PDT-7405A	**12/23/2015**	± 2% of range
Ring Jet Differential Pressure	Rosemount Transmitter/ Pressure	0 – 40 in w.c. (changed 2005)	PDT-7401B PDT-7405B	**8/28/2015**	± 2% of range
Sludge 2 Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3100A	**5/16/2016**	± 5% of range
Sludge 2 Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3100B	**5/16/2016**	± 5% of range
High Btu Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3113	**5/16/2016**	± 5% of range
Organic Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3123	**5/16/2016**	± 5% of range
Sludge Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3133	**5/16/2016**	± 5% of range
Aqueous Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3143	**5/16/2016**	± 5% of range
Slurry Lance Atomizing Pressure	Generic pressure switch	0 – 50 psi	PSL-3153	**5/16/2016**	± 5% of range
Kiln / Secondary Combustion Chamber Pressure	Rosemount Transmitter / Pressure transducer	-3.5 - +2.5 in. w.c.	PT-4300A	**WFCO Test done every 3 weeks**	± 2% of range
Kiln / Secondary Combustion Chamber Pressure	Rosemount Transmitter / Pressure transducer	-3.5 - +2.5 in. w.c.	PT-4300B	**WFCO Test done every 3 weeks**	± 2% of range
Spray Dryer Carbon Carrier Fluid Pressure	Rosemount Transmitter / Pressure	0 – 15 psi	PT-5732	**3/18/2015**	± 2% of range
Scrubber Carbon Carrier Fluid Pressure	Rosemount Transmitter / Pressure	0 – 15 psi	PT-7132	**3/18/2015**	± 2% of range
ESP Inlet Temperature	Rosemount Transmitter / Thermocouple	0 - 600 °F	TT-6002A	**WFCO Test done every 3 weeks**	± 2% of range
ESP Inlet Temperature	Rosemount Transmitter / Thermocouple	0 - 600 °F	TT-6002B	**WFCO Test done every 3 weeks**	± 2% of range
Kiln Temperature	Land CDI Thermometer	752 – 3272 °F	TT-4300A	**12/15/2015**	± 1% of range
Kiln Temperature	Land CDI Thermometer	752 – 3272 °F	TT-4300B	**7/22/2015**	± 1% of range
Secondary Combustion Chamber Temperature	Land CDI Thermometer	752 – 3272 °F	TT-4310A	**12/1/2015**	± 1% of range

Monitored Parameter	Instrument Description	Range and Units of Measurement	Tag Number	Last Calibration/Audit Date	Accuracy of Measurement
Secondary Combustion Chamber Temperature	Land CD1 Thermometer	752 – 3272 °F	TT-4310B	**8/28/2015**	± 1% of range
Pumpable Feed Rate Direct Drum Scale A	Generic Load Cell (Loss in weight calculation)	0 – 5,000 lb	WT-3050	**4/9/2016**	± 3% of range
Pumpable Feeds Direct Drum Scale B	Generic Load Cell (Loss in weight calculation)	0 – 5,000 lb	WT-3055	**4/9/2016**	± 3% of range
Pumpable FeedsTanker Scale A (South Bay)	Generic Load Cell. Loss in weight calculation	0 – 80,000 lb	WT-3060	**4/9/2016**	± 3% of range
Pumpable Feeds Tanker Scale B (East Bay)	Generic Load Cell. Loss in weight calculation	0 – 100,000 lb	WT-3065	**4/9/2016**	± 3% of range
Conveyor Scale Drum Processing	Generic Load Cell (Scale)	0 – 2,000 lb	WT-3070 ARTS Data	**4/9/2016**	± 3% of range
Splitting Scale Drum Processing	Generic Load Cell (Scale)	0 – 5,000 lb	WT-3075 ARTS Data	**4/9/2016**	± 3% of range
Floor Scale Drum Processing Lab Pack	Generic Load Cell (Scale)	0 – 2,000 lb	WT-3080 ARTS Data	**4/9/2016**	± 3% of range
Kiln Bulk Feed Crane	Generic Load Cell (Scale)	0 – 10,000 lb	WT-3105	**4/9/2016**	± 3% of range
Scrubber Carbon Feed Rate	Generic Load Cell / Loss in Weight Feeder	0 – 50 lb/hr	WT-7002	**4/9/2016**	± 1% of range
Spray Dryer Carbon Feed Rate	Generic Load Cell / Loss in Weight Feeder	0 – 50 lb/hr	WT-7003	**4/9/2016**	± 1% of range
Total Hydrocarbon Analyzer (Stack)	California Analytical Instruments, Inc.	0 – 100 ppm 0 – 500 ppm as Propane	AI-7850A	**5/25/2016**	£ ± 5% of span
Total Hydrocarbon Analyzer (Stack)	California Analytical Instruments, Inc.	0 – 100 ppm 0 – 500 ppm as Propane	AI-7850B	**5/25/2016**	£ ± 5% of span
Stack Oxygen Analyzers (dry)	Ametek	0 – 25 %	AI-7860A	**5/25/2016**	± 1.0% Oxygen
Stack Oxygen Analyzers (dry)	Ametek	0 – 25 %	AI-7860B	**5/25/2016**	± 1.0% Oxygen
Stack Oxygen Analyzers (wet)	Ametek	0 – 25 %	AI-7865A	**5/25/2016**	± 1.0% Oxygen
Stack Oxygen Analyzers (wet)	Ametek	0 – 25 %	AI-7865B	**5/25/2016**	± 1.0% Oxygen
Flue Gas Flow Rate (Scrubber Outlet)	Calculation Stack - Reheat Flow	0 – 80,000 scfm	FT-7510A	**5/25/2016**	< 15% relative accuracy or < 7.5% of the applicable standard
Flue Gas Flow Rate (Scrubber Outlet)	United Sciences UltraSonic Gas Flow	0 – 80,000 scfm	FT-7510B	**5/25/2016**	< 15% relative accuracy or < 7.5% of the applicable standard
Flue Gas Flow Rate (Stack)	United Sciences UltraSonic Gas Flow	0 – 100,000 scfm	FT-7805A	**5/25/2016**	< 15% relative accuracy or < 7.5% of the applicable standard
Flue Gas Flow Rate (Stack)	Calculation Process + Reheat Flow	0 – 100,000 scfm	FT-7805B	**5/25/2016**	< 15% relative accuracy or < 7.5% of the applicable standard

C. Emission Data Summary

Complete the following emission data summary table for each affected source: (63.10(e)(3)(vi)(l))

Total duration of excess emission / parameter exceedances (minutes for opacity, hours for gases)

Excess Emissions	Total Duration(min)	Total Operating time of affected source during the reporting period (min)	% Of total source operating time during which excess emissions occurred
Maximum Ash Feed Rate (WQI-9000AH)	0	258,349	0.00%
Maximum Process Gas Flowrate (FI-7510A/B)	0	258,349	0.00%
Maximum Pumpable Waste Feed Rate (WQI-9000T)	0	258,349	0.00%
Maximum SCC Pressure (PI-4300A/B)	19.1	258,349	0.007%
Maximum Temperature at ESP Inlet (TI-6002A/B)	0	258,349	0.00%
Maximum Total Chlorine Feed Rate (WQI-9000CL)	0	258,349	0.00%
Maximum Total Low Volatile Metals Feed Rate (WQI-9000LV)	0	258,349	0.00%
Maximum Total Mercury Feed Rate (WQI-9000M)	0	258,349	0.00%
Maximum Total Pumpable LVM Feed Rate (WQI-9000PLV)	0	258,349	0.00%
Maximum Total SVM Feed Rate (WQI-9000SV)	0	258,349	0.00%
Maximum Total Waste Feed Rate (WQI-9000F)	0	258,349	0.00%
Minimum Feed Lance Atomization Pressure	0	258,349	0.00%
Minimum Kiln Temperature (TI-4300A/B)	140.6	258,349	0.05%
Minimum Loc. 1 Carbon Feed Pressure (PI-5732)	0	258,349	0.00%
Minimum Loc. 2 Carbon Feed Pressure (PI-7132)	0	258,349	0.00%
Minimum Loc. 1 Carbon Feed Rate (WI-7003)	11	258,349	0.00%
Minimum Loc. 2 Carbon Feed Rate (WI-7002)	0	258,349	0.00%
Minimum Ring Jet Pressure Drop (DPI-7401)	138.5	258,349	0.05%
Minimum SCC Temperature (TI-4310A/B)	0	258,349	0.00%
Minimum Scrubber (1st and 2nd Packed Bed) Pressure Drop	0	258,349	0.00%
Minimum Scrubber (1st and 2nd Packed Bed) Liquid Flow Rate (FQI-7201)	0	258,349	0.00%
Minimum Scrubber (3rd Stage) Liquid pH (AI-7307A/B)	66.4	258,349	0.03%
Minimum Scrubber (Ring Jet) Blowdown (FI-7403)	0	258,349	0.00%
Minimum Scrubber (Ring Jet) Liquid Flow Rate (FI-7404A/B)	86.7	258,349	0.03%
Minimum Scrubber (Ring Jet) Tank Level (LIC-7401)	0	258,349	0.00%
THC	1114.7	258,349	0.43%
ESP Controls	471.1	258,349	0.18%
Total Duration	**2048.1**	258,349	**0.79%**

Summary of causes of excess emissions / parameter exceedances (% of total duration by cause):

TYPE	Sum Of Duration	% of Total Duration
Startup/shutdown	0	0.00%
Control Equipment Problems	789.1	38.53%
Process Problems	432.4	21.11%
Other unknown causes	353.2	17.25%
Other known causes	473.4	23.11%
	2048.1	**100.00%**

D. CMS Performance Summary

Complete the following CMS performance summary table for each affected source: (63.10(e)(3)(vi)(J))

Total duration of CMS downtime[1]
0 minutes

Total operating time of affected source during the reporting period
258,044 min

Percent of total source operating time during which CMS were down
0.00 % [1]

[1] Heritage Thermal Services maintains redundant CMS equipment in most cases to prevent CMS downtime. There were no periods during this time that this redundancy did not prevent CMS downtime.

Summary of causes of CMS downtime (percent of downtime by cause)	Minutes
Monitoring equipment malfunctions	0
Non-monitoring equipment malfunctions	0
Quality assurance / quality control calibrations	0
Other known causes	0
Other unknown causes	0

E. CMS, Process, or Control Changes

1. Have you made any changes in CMS, processes, or controls since the last reporting period?
   ☐ Yes ☒No (if no, end of form) (63.10(2)(3)(vi)(K))

2. If you answered yes, please describe the changes below:

END OF REPORT

bcc: Env. Dept
Stewart Fletcher
Bob Buchheit
Kevin Lloyd

file name: environ/MACT/HWC MACT/exceedances/semiannual2016a

ECF: 2016/MACT/ Semiannual A